



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,022	09/29/2003	Richard Jones JR.	39,816-01	4539
7590	02/07/2006		EXAMINER DOERRLER, WILLIAM CHARLES	
BP America Inc. Docket Clerk BP Legal, M.C. 5East 4101 Winfield Road Warrenville, IL 60555			ART UNIT	PAPER NUMBER
			3744	
DATE MAILED: 02/07/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/674,022		JONES ET AL.	
	Examiner		Art Unit	
	William C. Doerrler		3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11 and 13-22 are rejected under 35 U.S.C. 102(b) as being anticipated by the Bauer article from the IDS.

Bauer shows (in figure 5) a LNG plant which uses a plurality of turbines which are powered by natural gas and compressed air to compress refrigerant used for refrigerant and the exhaust heat from the turbines used to generate steam which is expanded to produce electricity.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1,2,6-11,13,14 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garbo '631 in view of Haak.

Garbo discloses applicants' basic inventive concept, a cooling system which uses gas fired turbines to power refrigerant compressors and steam turbines to produce electricity (see lines 7-20 of column 3), substantially as claimed with the exception of using multiple compressors and turbines and using electric starter motors to compress refrigerant used to liquefy natural gas. Haak shows these features to be old in the natural gas liquefying art (see figure 1 for multiple compressors and starter motors 28,29). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention from the teaching of Haak to modify the liquefying and generating system of Garbo by using multiple compressors to improve the efficiency of the compression and enable a higher final pressure, and to use electric auxiliary motors to enable easier starting of the device. In regard to claims 9 and 19, it is noted that a .01% reduction of carbon dioxide is considered a reduction of "up to about sixty percent". It is further considered that Garbo will provide the same benefits as the claimed invention since it uses the same structure.

Claims 3-5 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garbo in view of Haak as applied to claims 1,2,6-11,13,14 and 18-22 above and further in view of any one of Johnson et al, Child et al or Polizzotto. Garbo, as modified,

discloses applicant's basic inventive concept, a liquefying system which uses a gas turbine to compress refrigerant, with the exhaust used to provide steam to power a steam turbine which produces electricity, substantially as claimed with the exception of compressing air used in the gas turbine. Johnson et al and Child et al and Polizzotto each show the compression of air to be used in a combustion turbine to be old in the turbine art. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention from the teaching of any one of Johnson et al, Child et al or Polizzotto to modify the system with a combustion turbine of Garbo by compressing the air used in the gas turbine to improve the efficiency of the turbine.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1,3,6,10,11,13,19,21 and 22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21

of copending Application No. 10/674,212. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the current application are broader in scope than the claims in the other application. The claims in the other application contain all the limitations of the current claims with the addition of a stand alone cooler to precool the air. The other claims will dominate the currently pending claims (one cannot perform the other claims without performing the current claims). It is considered obvious to an ordinary practitioner in the art that the method and apparatus of applicants' '212 application could be performed without the stand alone cooler, as long as one does not need the added performance derived therefrom.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicant's arguments with respect to claims 1-11 and 13-22 have been considered but are moot in view of the new ground(s) of rejection.

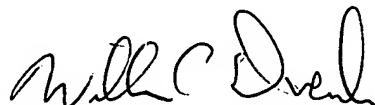
Haak teaches the liquefaction of gas using refrigerant which is compressed and then expands to cool natural gas to liquefy it. When read in light of the patent to Garbo, which teaches compressing a refrigerant using a fuel fired turbine with steam being produced from the exhaust of the turbine, with the steam used to generate electricity for the system, one of ordinary skill the art is led to a system for compressing refrigerant using gas fired turbines with the refrigerant being used to liquefy natural gas and the

exhaust from the turbine being used to generate steam which is expanded in a turbine to generate electricity for use in the system. Haak does not teach the generation of steam to generate electricity, but this is immaterial since Garbo teaches this limitation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Doerrler whose telephone number is (571) 272-4807. The examiner can normally be reached on Monday-Friday 6:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William C Doerrler
Primary Examiner
Art Unit 3744

WCD